



Lonnonson Arbor Care  
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July 9, 2019

Tibbetts Crossing  
Suver & Burnstead Homes  
7932 Renton-Issaquah Rd SE  
Issaquah, WA 98027

Re: **Tree Report & Inventory** for the address mentioned above (Addendum).

To The City of Issaquah and Burnstead Homes,

This letter is to be added to the original Tree Report and Inventory for the address mentioned above, dated July 9, 2018. The area of development with the current site plans has changed from the preliminary plans. The preliminary plans assumed an area of 11.5 acres for development. The current development plans equates to 10.67 acres. The adjusted tree density in diameter inches (dia.in.) per acre and the tree retention percentage are calculated below.

The approximate development in the pasture area is 4.8 acres, and the disturbance in the forested area is calculated to be 1.57 acres, totaling 81.5 dia.in. and 8,596 dia.in. of viable trees, respectively. The total area allowed for development in the pasture and forest, not including critical areas and wetland buffers, is 10.67 acres. This is equivalent to 813.3 viable dia. in. per acre  $[(81.5 \text{ dia. in.} + 8596 \text{ dia. in.}) / 10.67 \text{ acre} = 813.3 \text{ dia. in.} / \text{acre}]$ . Removal of 4.3 acres of trees leaves a 40.3% tree retention plan for the whole site.  $10.67 \text{ acres} - (4.8 \text{ acres} + 1.57 \text{ acres}) = 4.3 \text{ acres}$ .  $[(813.3 \text{ dia. in./acre} \times 4.3 \text{ acres}) / 8677.5 \text{ dia. in.}] \times 100\% = 40.3\%$ .

Please reply if you have questions.

Thank you,

*Lonnie Olson*

Lonnie Olson, Owner  
ISA Certified Arborist (PN-5427A) exp. 12/31/2020  
Qualified Tree Risk Assessor (#697) exp. 7/24/2023



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July 9, 2018

Tibbetts Crossing  
Suver & Burnstead Homes  
7932 Renton-Issaquah Rd SE  
Issaquah, WA 98027

Re: **Tree Report & Inventory** for the address mentioned above, including the surrounding pasture, stream, and forest land.

To Whom It May Concern,

The purpose of this report is to document the location, identification, size and viability of each significant tree on the above-mentioned land. This report also assesses tree densities, retention, and replacement. The City of Issaquah defines “significant” trees as being more than 6 inches in trunk diameter, 4 ½ feet from existing grade.

I inspected 171 tagged “significant” trees on the property mentioned above on June 13<sup>th</sup>, 2018. Measurements of trunk diameters were taken with a tree diameter tape. The trunk Diameter at Standard Height (DSH), 4 ½ feet from the ground, of the 171 trees are recorded in the tree survey table on the next page, which also includes species, hazard assessments, **windthrow**, and the following. The Limit of Disturbance (LOD) noted for each tree is the radius around the tree trunk that should not be disturbed during grading and construction in order to preserve the root zone. The LOD includes the terms known as critical root zone, critical root mass, outer root zone, or **dripline**. The LOD is determined by the tree species, its dripline, DSH, surrounding conditions, and slope. A tree’s viability for retention depends on its likelihood for survival (> 10 years), and the amount of hazards or defects that would be detrimental to tree health, people, or property in the future.

Hazard assessment is categorized into four types of risk within a five year period; *improbable*, *possible*, *probable*, and *imminent*. *Improbable* risk means the tree is stable, void of defects, and highly unlikely to fail, even under severe weather conditions. *Possible* risk means there is a defect with the tree that may suggest the tree is somewhat likely to fail. *Probable* risk means the tree or part of the tree is very likely to fail within a given time. Trees with *imminent* risk should be worked on as soon as possible.

The number within the brackets [ ] in the inventory table is the total DSH for multiple trunks derived from the total area in square inches, 4 ½ feet from grade.  $DSH = [\sqrt{(Area / \pi)}] \times 2$ .

## Tree Inventory Table:

Tag #	Species	DSH	LOD	Viable	Condition
8042	Red cedar <i>Thuja plicata</i>	53.0	30.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8042-A	Red alder <i>Alnus rubra</i>	17.5"	13.0'	No	Severe decay within the trunk. <i>Probable</i> risk of whole tree failure.
8043	Red alder	20.5"	15.0'	Yes	Sturdy tree with no signs of disease or decay. U-shaped crotch development suggests <i>possible</i> large part failures.
8061	Red alder	14.0"	10.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8062	Red alder	15.5"	12.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8063	Big-leaf maple <i>Acer macrophyllum</i>	31.0"	23.0'	Yes	Sturdy tree with no signs of disease or decay. Deep crotch development suggests <i>possible</i> large part failures.
8064	Red cedar	22.5"	16.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8065	Red alder	13.0"	9.0'	No	Alder tree is pushed aside by fallen tree. Foliage is thin. <i>Possible</i> whole tree failure. Susceptible to windthrow.
8066	Red alder	11.5" 12.0" [16.6"]	12.0'	Yes	Sturdy tree with no signs of disease or decay. Deep crotch development suggests <i>possible</i> large part failures.
8067	Red alder	22.0"	16.0'	No	Excessive dead branching with a dead side stem. Probable whole tree failure. Susceptible to windthrow.
8068	Red cedar	11.5"	9.0'	Yes	Sturdy tree with no signs of decay. Exposed sapwood at the base of the trunk. <i>Improbable</i> risk of failures.
8069	Red cedar	40.3"	30.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8070	Big-leaf maple	29.5"	22.0'	No	Deep main crotch with included bark and bulging reaction wood on both sides. <i>Probable</i> break at the main crotch. Susceptible to windthrow.
8071	Big-leaf maple	14.0"	10.0'	Yes	Sturdy tree with no signs of decay or disease. Asymmetric canopy to the west. <i>Possible</i> large part failures.
8072	Big-leaf maple	20.5" 21.0" 17.5" 18.0" [38.6"]	25.0'	Yes	Sturdy tree with no signs of disease or decay. Deep crotch development suggests <i>possible</i> large part failures.

Tag #	Species	DSH	LOD	Viable	Condition
8074	Big-leaf maple	28.5"	20.0'	Yes	Sturdy tree with no signs of disease or decay. Deep crotch development suggests <i>possible</i> large part failures.
8076	Big-leaf maple	13.5"	10.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8077	Red cedar	53.0"	40.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8078	Red cedar	43.0"	30.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8079	Red cedar	16.0"	12.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8080	Douglas fir <i>Pseudotsuga menziesii</i>	29.0"	22.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8081	Douglas fir	13.0"	9.0'	No	Mostly dead and very susceptible to windthrow. <i>Probable</i> whole tree failure.
8082	Red cedar	16.5"	12.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8083	Douglas fir	33.0'	24.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8084	Big-leaf maple	11.0"	8.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8085	Douglas fir	34.0"	25.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8086	Big-leaf maple	12.0"	9.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8087	Douglas fir	36.3"	25.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8088	Douglas fir	23.0"	17.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8089	Red cedar	18.5"	14.0'	No	Decay within the trunk. Co-dominant with poor union. <i>Probable</i> large part failure.
8091	Red cedar	25.0"	18.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8093	Douglas fir	42.0"	30.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.

Tag #	Species	DSH	LOD	Viable	Condition
8094	Red cedar	19.5"	14.0'	Yes	Sturdy tree with exposed sapwood along the trunk. No signs of decay. Spiked stem off main trunk. <i>Possible</i> large part failure.
8095	Red cedar	20.0"	15.0'	Yes	Sturdy tree with co-dominant top canopy. No signs of decay or disease. <i>Possible</i> large part failure.
8096	Douglas fir	23.0"	17.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8097	Douglas fir	35.0"	26.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8098	Big-leaf maple	12.0"	9.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. Asymmetric canopy. <i>Improbable</i> risk of failures.
8099	Douglas fir	30.5"	22.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8100	Red cedar	13.0" 26.5" [29.6"]	22.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8101	Big-leaf maple	12.0" 28.5" [31.0"]	23.0'	No	Severe decay within the trunk. <b><i>Imminent</i></b> failure.
8102	Big-leaf maple	16.0"	12.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. Asymmetric canopy. <i>Improbable</i> risk of failures.
8103	Red alder	11.5"	8.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8104	Red alder	9.5"	6.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8105	Red alder	17.5"	13.0'	No	J-shaped trunk with poor root to trunk development. Susceptible to windthrow. <i>Probable</i> whole tree failure.
8107	Douglas fir	36.0"	27.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8108	Douglas fir	42.0"	32.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8109	Red cedar	23.0"	17.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8110	Red cedar	18.0"	13.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.

Tag #	Species	DSH	LOD	Viable	Condition
8111	Red cedar	60.0"	40.0'	Yes	Sturdy tree with no signs of disease or decay. Co-dominant stems with strong union. <i>Improbable</i> risk of failures.
8112	Red cedar	54.2"	35.0'	Yes	Sturdy tree with no signs of disease or decay. Co-dominant stems with strong union. <i>Improbable</i> risk of failures.
8113	Red cedar	11.0"	8.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8115	Douglas fir	25.0"	18.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8116	Douglas fir	29.0"	22.0'	No	Tree has slight lean and asymmetric canopy to the SW due to neighboring trees. Susceptible to windthrow if exposed. <i>Improbable</i> risks of failure under current conditions.
8117	Douglas fir	27.0"	20.0'	No	Tree has J-shaped trunk and dead branching. Susceptible to windthrow if exposed. <i>Possible</i> risks of failure under current conditions.
8118	Douglas fir	31.0"	23.0'	No	Tree has severe crook about 40' up the trunk. Susceptible to windthrow if exposed. <i>Possible</i> risks of failure under current conditions.
8119	Douglas fir	22.0"	16.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8120	Red cedar	43.0"	32.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8121	Douglas fir	27.5"	20.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8122	Douglas fir	19.5"	14.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8123	Douglas fir	31.0"	23.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8124	Douglas fir	23.0"	17.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8125	Douglas fir	24.0"	18.0'	No	Tree has a live canopy ratio less than 25%. Highly susceptible to windthrow if exposed. <i>Possible</i> risks of failure under current conditions.
8126	Douglas fir	27.5"	20.0'	No	Tree has a live canopy ratio less than 25%. Highly susceptible to windthrow if exposed. Asymmetric canopy. <i>Possible</i> risks of failure under current conditions.

Tag #	Species	DSH	LOD	Viable	Condition
8127	Red alder	14.5"	10.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8128	Red alder	11.0"	8.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8129	Red alder	11.5"	8.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8130	Red alder	14.0"	10.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8135	Red alder	15.0"	10.0'	No	Mostly dead.
8136	Red alder	14.0"	10.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8137	Red alder	15.0"	11.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8154	Red cedar	11.0"	8.0'	Yes	Sturdy tree with no signs of decay or disease. A seem present up the trunk. <i>Improbable</i> risk of failures.
8155	Red cedar	28.5"	21.0'	Yes	Sturdy tree with no signs of decay or disease. Co-dominant top canopy. <i>Possible</i> large part failure.
8156	Big-leaf maple	36.5" 38.5" [53.0']	35.0'	Yes	Sturdy tree with no signs of disease or decay. Deep crotch development suggests <i>possible</i> large part failures.
8157	Big-leaf maple	23.0"	17.0'	No	No signs of decay. Dead branching and an asymmetric canopy. Susceptible to windthrow if exposed. <i>Possible</i> large part failures under current conditions.
8158	Big-leaf maple	31.5"	22.0'	No	No signs of decay. Asymmetric canopy. Susceptible to windthrow if exposed. <i>Possible</i> large part failures under current conditions.
8159	Red cedar	24.5"	18.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8160	Douglas fir	34.0"	25.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8161	Douglas fir	23.0"	17.0'	No	Tree has a crook about 25' up the trunk. Susceptible to windthrow if exposed. <i>Possible</i> risks of failure under current conditions.
8162	Douglas fir	36.0"	27.0'	Yes	Sturdy tree with no signs of decay or disease. Spiked stem from the main trunk. <i>Possible</i> large part failure.

Tag #	Species	DSH	LOD	Viable	Condition
8163	Red cedar	38.5"	28.0'	Yes	Sturdy tree with a co-dominant canopy. Good union between stems. Dieback with the top of one stem. <i>Improbable</i> risk of failures.
8164	Big-leaf maple	38.5"	28.0'	Yes	No signs of decay. Asymmetric canopy. Susceptible to windthrow if exposed. <i>Possible</i> large part failures under current conditions.
8165	Douglas fir	43.5"	30.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8166	Big-leaf maple	21.0"	15.0'	No	The trunk is severely contorted with an asymmetric canopy. Highly susceptible to windthrow. <i>Probable</i> large part failures.
8167	Big-leaf maple	22.5"	16.0'	Yes	Sturdy tree with no signs of decay. Deep V-shaped main crotch. <i>Possible</i> large part failures.
8168	Big-leaf maple	21.0"	15.0'	No	Decay pockets along the stems and asymmetric canopy. Susceptible to windthrow if exposed. <i>Possible</i> large part failures under current conditions.
8169	Red cedar	11.5"	8.0'	No	J-shaped trunk. Poor root to trunk development. Susceptible to windthrow. <i>Possible</i> whole tree failure under current conditions.
8170	Douglas fir	36.0"	27.0'	Yes	Good root to trunk development with no signs of decay or disease. Asymmetric canopy. <i>Possible</i> large part failures.
8171	Douglas fir	18.0"	13.0'	No	Good root to trunk development with no signs of decay or disease. Asymmetric canopy. Susceptible to windthrow if exposed. <i>Possible</i> large part failures.
8172	Douglas fir	22.0"	16.0'	No	Live crown ratio is less than 25% with thin foliage. Highly susceptible to windthrow. Probable whole tree failure.
8173	Red cedar	22.0" 11.0" [24.6"]	18.0'	Yes	Sturdy tree with good union between trunks. No signs of decay or disease. <i>Improbable</i> risk of failures.
8174	Red cedar	22.0"	16.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8175	Red cedar	15.5"	12.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8176	Red cedar	57.0"	40.0'	Yes	No signs of decay or disease. Co-dominant canopy with good union between stems. Some contorted stems. <i>Possible</i> large part failures.
8177	Douglas fir	35.5"	26.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.



Tag #	Species	DSH	LOD	Viable	Condition
8186	Douglas fir	34.5"	27.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8187	Douglas fir	16.5"	12.0'	No	Live crown ration is less than 25% with thin foliage. Highly susceptible to windthrow. Probable whole tree failure.
8188	Douglas fir	28.5"	21.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8189	Douglas fir	19.0"	14.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8190	Red cedar	15.0"	11.0'	No	Severe decay within the trunk. <b><i>Imminent</i></b> failure.
8192	Douglas fir	26.5"	20.0'	No	Co-dominant stem with V-shaped crotch. Susceptible to windthrow. <i>Possible</i> large part failure.
8193	Douglas fir	21.5"	16.0'	No	Live crown ration is less than 25% with thin foliage. Highly susceptible to windthrow. Probable whole tree failure.
8194	Douglas fir	27.0"	20.0'	No	Tree has crooked trunk about 30' up. Susceptible to windthrow if exposed. <i>Possible</i> risks of failure under current conditions.
8195	Douglas fir	33.5"	25.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8196	Douglas fir	34.0"	25.0'	Yes	Sturdy tree with no signs of decay or disease. Asymmetric canopy. <i>Improbable</i> risk of failure.
8199	Big-leaf maple	26.0"	19.0'	Yes	Sturdy tree with no signs of decay or disease. Asymmetric canopy. <i>Improbable</i> risk of failure.
8214	Black walnut <i>Juglans nigra</i>	35.0"	28.0"	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8215	Black walnut	41.3"	30.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8216	Apple <i>Malus sp.</i>	20.0"	10.0'	No	Severe decay throughout the trunk. Probable whole tree failure.
8217	Apple	31.0"	15.0'	No	Severe decay throughout the trunk. Probable whole tree failure.
8218	Red alder	18.0"	13.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8219	Red alder	15.0"	11.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.

Tag #	Species	DSH	LOD	Viable	Condition
8220	Red alder	14.0"	10.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8221	Red alder	13.0"	9.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8222	Red alder	18.5"	13.0'	Yes	Sturdy tree with no signs of decay or disease. Asymmetric canopy. Canopy heavy with honeysuckle vine. <i>Possible</i> whole tree failure.
8223	Red cedar	17.0"	13.0'	No	J-shaped trunk. Stream undercutting tree. <i>Possible</i> whole tree failure.
8224	Red alder	9.0"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8225	Red alder	13.5"	10.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8226	Red alder	14.0"	10.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8227	Red alder	11.0"	8.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8228	Red alder	9.5"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8229	Red alder	8.0"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8230	Red alder	10.0"	7.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8231	Red alder	15.0"	11.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8232	Red alder	9.0"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8233	Cherry <i>Prunus sp.</i>	9.0" 11.0" 11.0" [14.2"]	11.0'	No	Canopy dieback. <i>Possible</i> large part failures.
8234	Cherry	21.0"	15.0'	No	Severe decay within the trunk. Canopy dieback. <i>Possible</i> large part failures.
8235	Red cedar	75.0"	-	No	Tree has broken apart at the trunk. <i>Probable</i> failure with the rest of the tree.

Tag #	Species	DSH	LOD	Viable	Condition
8236	Cherry	13.0" 13.0" 12.0" 12.0" [25.0"]	18.0'	Yes	Sturdy tree with no signs of decay or disease. Top canopy exhibits signs of stress. Thin foliage. <i>Improbable</i> risk of failures.
8237	Black walnut	46.0"	30.0'	No	Decay and disease within the trunk. Dead top canopy and branching. <i>Imminent</i> large part failure.
8238	Black walnut	33.5"	25.0'	No	Decay and disease within the trunk. Dead top canopy and branching. <i>Imminent</i> large part failure.
8239	Black walnut	11.5" 12.0" 13.0" 14.0" [25.4"]	19.0'	Yes	Sturdy tree with no signs of decay or disease. Good connection between crotches. <i>Improbable</i> risks of failure.
8240	Red alder	17.0"	12.0'	No	Large side branch has poor connection with included bark. Cavity on the trunk. <i>Probable</i> large part failures.
8241	Red alder	7.0" 8.5" [11.0"]	8.0'	Yes	Sturdy tree with no signs of decay or disease. Good connection between the U-shaped crotch. <i>Improbable</i> risk of failures.
8242	Red alder	8.0"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8243	Red alder	11.0"	8.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8244	Cottonwood <i>Populus trichocarpa</i>	21.0"	15.0'	No	Large side branch has poor connection with included bark. <i>Probable</i> large part failures.
8245	Red alder	9.0"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8246	Red alder	14.0"	10.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8247	Red alder	8.5"	6.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8248	Red alder	10.0"	8.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8249	Red alder	15.0"	11.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8250	Big-leaf maple	15.0"	11.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.

Tag #	Species	DSH	LOD	Viable	Condition
8251	Big-leaf maple	22.0"	16.5'	Yes	Sturdy tree with no signs of decay or disease. Contorted branching. <i>Possible</i> large part failures.
8252	Red cedar	27.5"	20.0'	Yes	Sturdy tree with no signs of decay or disease. Spiked stem/branch. <i>Possible</i> large part failure.
8254	Red cedar	9.0"	6.0'	No	Poor root to trunk development. Susceptible to windthrow. <i>Probable</i> risk of whole tree failure
8255	Western hemlock <i>Tsuga heterophylla</i>	12.0"	8.0'	No	Grows from a nurse log. No signs of decay or disease. Susceptible to windthrow. <i>Possible</i> risk of whole tree failure.
8256	Douglas fir	28.5"	20.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8257	Douglas fir	37.0"	28.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8258	Red cedar	15.0"	11.0'	No	Poor root to trunk development. Susceptible to windthrow if exposed. <i>Possible</i> whole tree failure under current conditions.
8259	Douglas fir	30.5"	22.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8260	Red cedar	9.5"	7.0'	No	Severe lean and susceptible to windthrow. <i>Probable</i> whole tree failure.
8261	Red cedar	26.0"	20.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8262	Red cedar	31.0"	22.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8263	Red cedar	29.0" 38.0" [47.8"]	35.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8264	Red cedar	15.0"	11.0'	Yes	Sturdy tree with no signs of decay or disease. Crooked trunk about 30' up. <i>Possible</i> large part failure.
8265	Red cedar	30.0"	22.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8266	Big-leaf maple	19.0"	14.0'	Yes	Sturdy tree with no signs of decay or disease. Leans to the north. <i>Possible</i> whole tree failure.
8267	Big-leaf maple	21.0"	15.0'	Yes	Sturdy tree with no signs of decay or disease. Deep crotch development suggests <i>possible</i> large part failures.

Tag #	Species	DSH	LOD	Viable	Condition
8268	Big-leaf maple	27.0"	20.0'	No	Seem and cavity about 12' up the tree. <i>Possible</i> large part failures.
8269	Big-leaf maple	22.0"	16.0'	No	Large open decay pocket at the base of the trunk. <i>Probable</i> whole tree failure.
8270	Red cedar	17.0"	13.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8271	Red alder	25.0"	15.0'	No	Large dead part of the trunk. <i>Probable</i> whole tree failure.
8272	Big-leaf maple	17.5" 18.0" 20.5" 21.0" [38.6"]	28.0'	Yes	Sturdy tree with no signs of disease or decay. Deep crotch development suggests <i>possible</i> large part failures.
8060	Red Alder	14.0"	10.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8147	Apple <i>Malus sp.</i>	14.5"	10.0'	Yes	Sturdy tree with no signs of disease, decay, or structural defects. <i>Improbable</i> risk of failures.
8179	Big-leaf maple	26.5"	20.0'	Yes	Sturdy tree with no signs of decay or disease. Asymmetric canopy. Possible large part failures.
8180	Douglas fir	23.0"	17.0'	No	Sturdy tree with no signs of decay or disease. Crooked trunk about 30' up. Susceptible to windthrow. <i>Possible</i> large part failure.
8182	Douglas fir	19.5"	15.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8183	Douglas fir	14.0"	10.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.
8184	Red cedar	19.0"	15.0'	Yes	Sturdy tree with no signs of decay, disease, or structural defects. <i>Improbable</i> risk of failure.

The Tibbetts Crossing area consists of three different ecological niches; forest, stream, and pasture. The forested area east of the stream has approximately 1,283 viable diameter inches (dia. in.) at standard height per acre. This was calculated by adding all the viable trees within 33,000 square feet (975 dia. in. / .76 acres) in Lots 17 and 18. There is approximately 6.7 acres of forested land east of the stream, which does not include critical areas and wetland buffers. This equals approximately 8,596 viable dia. in. for the 6.7 acres of forested area.

Developing Lots 17 – 20 will disturb 68,393 square feet (1.57 acres) of land. This removes about 2,014 dia. in. of viable trees and retains approximately 76.6% of the tree diameters for the forested area east of Tibbetts Creek  $[(8,596 - 2,014) / 8,596] \times 100\% = 76.6\%$ .

The pasture land between SR-900 and the western wetland buffer, from the south corner of Lot 8 to the north border is approximately 210,000 square feet (4.8 acres). There is 81.5 dia. in. of viable trees within this pasture area. This equals about 17.0 dia. in. per acre.

The total area for pasture and forest, not including critical areas and wetland buffers, is about 11.5 acres. This is equivalent to 754.6 viable dia. in. per acre  $[(81.5 \text{ dia. in.} + 8596 \text{ dia. in.}) / 11.5 \text{ acre} = 754.6 \text{ dia. in. / acre}]$ . Removal of 5.13 acres of trees leaves a 44.6% tree retention plan for the whole site.  $11.5 \text{ acres} - (4.8 \text{ acres} + 1.57 \text{ acres}) = 5.13 \text{ acres}$ .  $[(754.6 \text{ dia. in./acre} \times 5.13 \text{ acres}) / 8677.5 \text{ dia. in.}] \times 100\% = 44.6\%$ .

New planting are required by the City of Issaquah to be at least 50% conifer. Conifer trees (evergreen trees bearing cones) must stand at least 7-8 feet tall when planted to equal 1 dia. in. Planting of new deciduous trees must have at least a 2 inch trunk caliper to equal 1 dia. in. Caliper is the diameter of the new tree's trunk 4-12 inches from top of root ball.

Protective fencing is encouraged around the perimeters of the LOD for each retained tree, or grove of trees during grading and construction. Chain-link fencing is recommended for tree protection to preserve the trees from soil disturbance due to machines, foot traffic, and materials. Grading and construction should not be allowed within the LOD of retained trees without prior consent from a Certified Arborist.

Additional tree credits may be obtained by planting native species such as some of the trees listed in the data table. Smaller, more ornamental species of native trees may include Excelsior cedar (*Thuja plicata* 'Excelsior'), Port Orford cedar (*Chamaecyparis lawsoniana*), and Mountain hemlock (*Tsuga mertensiana*) for evergreen conifer types. Additional deciduous native species appropriate for the site include Serviceberry tree (*Amelanchier alnifolia*), Dogwood (*Cornus nuttallii* or *Cornus* 'Eddie's White Wonder'), Cascara buckthorn (*Rhamnus purshiana*), Oregon Ash (*Fraxinus latifolia*), and Vine maple (*Acer circinatum*).

Please reply if you have questions.

Thank you,



Lonnie Olson, Owner  
ISA Certified Arborist (PN-5427A)  
Qualified Tree Risk Assessor (#697)

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## Glossary:

**Drip line** – the edge of the critical root zone that circumferences around a tree from trunk to average branch tips.

**Windthrow** – The susceptibility of a tree to fall under high wind conditions.